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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/685,196	10/10/2000	Timothy R. Miller	195273US8	4307

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EXAMINER	
CHANG, EDITH M	

ART UNIT	PAPER NUMBER
2634	

DATE MAILED: 12/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/685,196	MILLER ET AL.	
	Examiner	Art Unit	
	Edith M Chang	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 October 2000*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *3,7*.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claim Objections

1. Claims 1-8 are objected to because of the following informalities: The acronym "UWB" in claim 1 line1 should be spelled out, as it appears first time in the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-6, 9-14, & 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dress, Jr. et al. (US 6603818) in view of Davidovici et al. (US 6154483).

Regarding **claims 1, 9 & 17**, except explicitly specify the selector/means to select the arm, and the correlation function which is required by the correlator, Dress, Jr. et al. discloses all subject matter claimed a system and its method comprising: an antenna/means receives incoming pulses of the UWB signal (1400 FIG.14, column 11 lines 40-45), adjacent pulses of the incoming pulses occurring at a predetermined interval (column 5 lines 60-65); a signal generator/means generates local pulses (1490 FIG.14); a correlator/means for correlating (1460 FIG.14). However Davidovici et al. teaches the selector detects arm to identify the phase based on the correlation (35-40, 42, 46, FIG.1, column 10 lines 45-50), and the correlation function (column 12 lines 23-

28). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the selector and the correlation function taught by Davidovici et al. in Dress, Jr. et al.'s UWB receiver to provide a new and novel spread-spectrum-matched-filter apparatus in the SS receiver to determine two different phase responses (column 10 lines 45-50, column 5 lines 18-21).

Regarding **claims 2 &10**, Dress, Jr. et al. discloses the predetermined interval is a distance between the incoming pulses in time (FIG.2, column 1 lines 50-58).

Regarding **claims 3, 11 & 4, 12**, Dress, Jr. et al. discloses one of bi-phase modulated, and quadrature phase modulated, and multilevel pulses (column 14 lines 25-35, column 11 lines 40-45).

Regarding **claims 5 & 13**, Dress, Jr. et al. discloses a phase adjuster to adjust the local pulses (LOCK, CLOCK, 1480-1490 FIG.14, column 12 lines 5-15); and a calculator to calculate a correlation value of the local pulse and the incoming pulse (1460 FIG.14, column 11 line 65-column 12 line 3).

Regarding **claims 6 & 14**, the modified Dress, Jr. et al.'s receiver with the Davidovici et al.'s teaching has a plurality of the correlation value comprises the correlation function (refer to the rationale of claims 1 & 9).

4. Claims 7, 15 & 20, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dress, Jr. et al. (US 6603818) in view of Davidovici et al. (US 6154483), as applied to claims 1 & 9 above, and further in view of Park et al. (US 6650693).

Regarding **claims 7 & 15**, except explicitly specify the predetermined threshold of the correlator, Davidovici et al.'s discloses all subject matter: a first calculator to find a fist

correlation value (25 FIG.1) and a second calculator to find a second correlation values (37 FIG.1); and a comparator to select the detecting arm with a higher correlation value (35-38, 37-39 FIG.1). Further Park et la. teaches the predetermined threshold in the correlation (column 2 lines 3-15). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the well known predetermined threshold of the correlation taught by Park et al. in Davidovici et al.'s correlator to detect the received signal.

Regarding **claims 20 & 24**, Davidovici et al.'s discloses all subject matter claimed as in the rationale of claims 7 & 15, and discloses finding a second correlation value over a phase range beginning with the first phase (35-38-40, 37-39-40 FIG.1, column 7 lines 60-67).

5. Claims 8 & 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dress, Jr. et al. (US 6603818) in view of Davidovici et al. (US 6154483) and Park et al. (US 6650693), as applied to claims 7 and 15 above, and further in view of Nishimura (US 6493360).

Regarding **claims 8 & 16**, further Nishimura teaches the threshold is based on a desired bit error rate of the incoming signal (FIG.5). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the threshold based on a desired bit error rate taught by Nishimura to reduce the noise error detection and signal miss detection by more than one type of thresholds values (column 3 lines 30-35).

6. Claims 18, 22 & 19, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dress, Jr. et al. (US 6603818) in view of Davidovici et al. (US 6154483), as applied to claims 1 & 9 above, and further in view of Nishimura (US 6493360).

Regarding **claims 18 & 22**, further Nishimura teaches a subtractor to decrease the predetermined threshold (S12-S16 FIG.8, column 11 lines 35-40). At the time of the invention, it

would have been obvious to a person of ordinary skill in the art to have the decreasing threshold taught by Nishimura to reduce the noise error detection and signal miss detection by more than one type of thresholds values (column 3 lines 30-35).

Regarding **claims 19 & 23**, inhering limitations of claim 18 and 22 respectively, further Nishimura teaches the threshold is based on a desired bit error rate of the incoming signal (FIG.5). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the threshold based on a desired bit error rate taught by Nishimura to reduce the noise error detection and signal miss detection by more than one type of thresholds values (column 3 lines 30-35).

7. Claims 21 & 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dress, Jr. et al. (US 6603818) in view of Davidovici et al. (US 6154483), as applied to claims 20 & 24 above, and further in view of Nishimura (US 6493360).

Regarding **claims 21 & 25**, further Nishimura teaches the threshold is based on a desired bit error rate of the incoming signal (FIG.5). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the threshold based on a desired bit error rate taught by Nishimura to reduce the noise error detection and signal miss detection by more than one type of thresholds values (column 3 lines 30-35).

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edith M Chang whose telephone number is 703-305-3416. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4800.

Edith Chang
December 8, 2003

Chieh M. Fan

CHIEH M. FAN
PRIMARY EXAMINER